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Aerospace Medicine

RESPIRATORY PROTECTION PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements 29 Code of Federal Regulations (CFR) 1910.134, 42 CFR 84, and *Air Force Occupational Safety and Health (AFOSH)* Standard 48-1, Respiratory Protection Program, at MacDill Air Force Base, Florida. This instruction is not applicable when using the MI7 or MCU-2/P gas masks for response to incidents or accidents involving nuclear, biological, or chemical warfare agents. This instruction is required to be maintained by all organizations in which personnel wear respirators for protection against inhalation of harmful atmospheres or for emergency escape or rescue. It does not apply to Air National Guard or US Air Force Reserve members or units unless a tenant on MacDill Air Force Base and supported by the 6th Aerospace Medicine Squadron (6 AMDS).

SUMMARY OF REVISIONS

Definitions were updated. Bioenvironmental Engineering Flight responsibilities were changed. Additionally, new instruction complies with 29 CFR 1910.134, Respiratory Protection; dated 8 January 1998, OSHA requirements.

1. References:

- 1.1. AFOSH Standard 48-1, *Respiratory Protection Program*
- 1.2. AFOSH Standard 48.8, *Controlling Exposures to Hazardous Materials*
- 1.3. 29 CFR 1910.134, *Respiratory Protection*
- 1.4. 42 CFR 84
- 1.5. HQ USAF/SG letter dated 17 July 1996.

NOTE: Throughout this instruction, all references are to AFOSH Standard 48-1 unless otherwise noted.

2. Definitions:

- 2.1. Cartridge or Canister: A small container with a filter, sorbent, or catalyst, or any combination of these items, which removes specific contaminants from the air passed through the container.
- 2.2. Carcinogen: A substance known to cause cancer.
- 2.3. Ceiling Concentration: The concentration of a toxic airborne substance that shall not be exceeded.
- 2.4. Confined Space: An enclosure such as a storage tank, process vessel, boiler, silo, tank car, pipeline, tube, duct, sewer, underground utility vault, tunnel, or pit having limited means of egress and poor natural ventilation that may contain hazardous contaminants or be oxygen deficient.
- 2.5. Contaminant: A harmful, irritating, or nuisance material that is foreign to the normal atmosphere.
- 2.6. Hazardous Atmosphere: Any atmosphere containing a toxic or disease producing contaminant that exceeds the legally established Occupational Exposure Limit.
- 2.7. Air-Purifying Respirator: A respirator with an air-purifying filter cartridge or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
- 2.8. Filtering Face Piece Device. A respirator that has a face piece made entirely of filtering or absorbing material. These respirators do not have changeable filters or cartridges.
- 2.9. High Efficiency Particulate Air (HEPA) Filter: A filter that is 99.97 percent efficient for particles with an aerodynamic diameter of 0.3 micrometers diameter. The equivalent National Institute for Occupational Safety and Health (NIOSH) 42 CFR 84 particulate filters is the N100, R100, and P100 filters.
- 2.10. Supplied-air respirator or airline respirator: An atmosphere supplying respirator for which the source of air is not designed to be carried by the user.
- 2.11. Self-contained breathing apparatus: An atmosphere supplying respirator for which the breathing air source is designed to be carried by the user.
- 2.12. Fit test: The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.
- 2.13. Tight-fitting face piece: A respiratory inlet covering that forms a complete seal with the face.

3. Responsibilities:

- 3.1. Commanders/Directors will:
 - 3.1.1. Ensure each process and/or operation that may generate airborne concentrations of hazardous material is evaluated for health hazards by Bioenvironmental Engineering Flight (BEF) (6 AMDS/SGPB).
 - 3.1.2. Reassign those workers identified by BEF not qualified to wear respirators (for inadequate fit test or other medical reason).
- 3.2. BEF:
 - 3.2.1. Is the office of primary responsibility for the base respiratory protection program.
 - 3.2.2. Is the authority for determining if respiratory protection is required.

3.2.3. Will administer or appoint a suitably trained individual to administer the base respiratory program.

3.2.4. Keeps all respiratory protection records of initial/annual refresher training.

3.2.5. Distributes personnel specific lists for annual training to shop supervisors annually.

3.2.6. Conduct annual reviews of the shop level operating instruction (01) that will occur during the annual industrial hygiene surveys according to AFI 48-101, Aerospace Medical Operations (formerly AFR 161-33).

3.3. Program Administrator will:

3.3.1. Comply with AFOSH Standard 48-1, AFOSH Standard 48-8, and 29 CFR 1910.134.

3.3.2. Perform initial/annual fit testing and training. Trains personnel for use of all tight fitting air purifying and air supplied respirators.

3.3.3. Notify, in writing, the supervisor of any employee not medically qualified to wear a respirator.

3.3.4. Provide Public Health with personnel on the Respiratory Protection Program.

3.4. The Chief, Aeromedical Services and Physical Examinations Section, will:

3.4.1. Arrange for and conduct initial and routine medical surveillance of respirator users as required by this instruction, AFOSH Standard 48-1, 29 CFR 1910.134, and applicable Occupational Safety and Health Administration (OSHA) standards.

3.4.2. All potential respirator wearers shall complete a screening questionnaire ([Attachment 1](#)) that will address cardiovascular, respiratory, and physiological risk factors prior to a respiratory protection fit test. Any positive response will be reviewed by a physician and scheduled for further medical evaluation as appropriate. If all responses are "no," the physician will indicate on the questionnaire that the worker is medically cleared for respirator fit testing and sign the form. The form will then be filed in the worker's medical record.

3.4.3. Notify BEF of medical disqualification

3.5. Workplace supervisors will:

3.5.1. Ensure compliance with this instruction and maintain a copy in organizations where personnel wear respirators for protection against inhalation of harmful atmospheres or for emergency escape or rescue.

3.5.2. Write a workplace specific or per AFOSH Standard 48-1, para 9.3.3 and 29 CFR 1910.134(c)(1). Supervisors shall call BEF at extension 8-3534 as needed for information and guidance regarding respiratory protection matters. Additional guidance for a sample work place specific respiratory protection 01 is provided in [Attachment 2](#).

3.5.3. Shop supervisors must contact the BEF office if new personnel assigned to their section require training or if personnel leave the shop. They must also provide BEF a list of respirator wearers every six months. The list will include the following information: organization, office symbol, duty phone, full name, date of birth, grade, Social Security Number, building number, supervisor, type of respirator, and type of cartridges and/or filters used.

3.5.4. Ensure workers are medically qualified before initial wear of respirators.

3.5.5. Ensure respirators are properly worn and maintained.

3.5.6. Document training on AF Form 55, Employee Safety and Health Record, and AF Form 2767, Occupational Health Training and Protective Equipment Fit Testing.

3.5.7. Ensure the following conditions do not exist for employees when using respirators and prevent the use of respirators in the event that either of the conditions is met:

3.5.7.1. Facial hair in the sealing area of the respirator.

3.5.7.2. Absence of one or both dentures.

3.5.7.3. Use of chewing tobacco, snuff, or gum.

3.5.7.4. Protective glasses, goggles, or face shields that interfere with the respirator seal. Workers who must wear spectacles with full-face respirators must contact BEF to ensure that correct spectacle inserts are obtained.

3.5.7.5. Medical conditions, chronic and recurrent such as respiratory and circulatory conditions that preclude use of the respirator, specifically asthma and heart will require Medical Evaluation Board (MEB) instructions as both warrant MEBs.

3.5.7.6. Wear of skullcaps or coverlets. Wear of these items will prevent proper seal of the respirator.

3.5.7.7. Ensure any female that is confirmed pregnant is removed from potential exposures and referred to the Public Health Flight (6 AMDSISGPM, ext 5213) for evaluation.

3.5.8. Ensure all respirator wearers have been advised that they may leave the area any time for relief from respirator use in event of equipment malfunction, physical or psychological distress, procedural or communication failure, significant deterioration, and operating conditions or any other conditions that might require relief.

3.5.9. Ensure an individual has been appointed to be responsible for the use, maintenance, inspection, and care of common use, emergency, or escape respirators as appropriate.

3.5.10. Provide quality control of respirator breathing air (if required) according to Technical Order 42B-1-22, Quality Control of Compressed and Liquid Breathing Air, and furnish sampling results to BEF.

3.5.11. Ensure personal respiratory protective equipment is used by the individual to whom it is issued. Exchange among users is strictly prohibited except in common use areas as designated by BEF. Shared respirators must be inspected, cleaned, sanitized, and stored away from contaminants after each use. Atmosphere supplying respirators are examples of shared or common use respirators.

3.6. Individual wearer of respiratory protection will:

3.6.1. Inspect, clean, and maintain respirators issued to them.

3.6.2. Wear only those respirators for which they have received fit testing and training, and only for the tasks specified.

3.6.3. Maintain the integrity of the NIOSH certification by not mixing parts from different manufacturers.

- 3.6.4. Use the provided respiratory protection according to the instructions and training received.
- 3.6.5. Report to their supervisor any change in medical status that may impact their ability to safely wear a respirator. This includes suspected pregnancy, respiratory illness, or any significant problem with the sense of smell.
- 3.6.6. Not wear contact lenses while wearing the respirator.
- 3.7. Ground Safety will refer any suspected problems on respirator usage discovered during their inspections to the Flight Commander, BEF.
- 3.8. Fire Protection Flight will:
 - 3.8.1. Provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur at least annually. Ensure each employee can demonstrate knowledge of the use and maintenance of self-contained breathing apparatuses (SCBA).
 - 3.8.2. Ensure required maintenance for regulating of admission valves, regulators, and alarms for SCBAs is performed by the respirator manufacturer or appointed individual(s) trained and certified by the manufacturer to conduct such maintenance.
 - 3.8.3. Ensure that cylinders used to supply breathing air to respirators meet all the requirements according to 49 CFR, Part 173 and Part 178. Provide BEF with a copy of the certificate of analysis from the supplier that the breathing air meets the requirements for Type 1 - Grade D breathing air.
- 3.9. HAZMART Pharmacy will:
 - 3.9.1. Assist in the control and issue of respirators by following the guidance described in this instruction. An Issue Exception Code of "z" will be assigned to all respirators, cartridges/filters, and spare parts used in industrial workplaces. These items will require approval of BEF prior to issue. This will ensure that untrained personnel do not receive respirators, as well as ensure there are enough respirators for trained personnel. BEF personnel will annotate respirator issues in the respiratory protection program binder.
 - 3.9.2. Will ensure a "Suitable Substitute" for a particular respirator or respirator part is not issued.

4. Selection, Use, and Limitations:

- 4.1. On July 10, 1995, 30 CFR 11 was replaced by 42 CFR Part 84. Under 42 CFR 84, NIOSH has revised certification criteria for nonpowered air purifying particulate filter respirators and filtering face piece devices. Three new filter series, N, R, and P, will be certified, each with three filter efficiencies (95%, 99%, or 99.97%). NIOSH has determined that N, R, and P filters, with a minimum filter efficiency of 95%, meet the Centers for Disease Control and Prevention criteria for protection against tuberculosis. The new Part 84 respirators have passed a more demanding certification test than the old respirators (e.g., dust and mist, dust, fume and mist, spray paint, pesticide, etc.) certified under 30 CFR 11. Personnel may continue to wear existing stock of HEPA filters as previously certified by NIOSH under 30 CFR 11. Under Part 84, NIOSH is allowing manufacturers to continue selling and shipping Part 11 particulate filters as NIOSH-certified until July 10, 1998.
- 4.2. Appropriate respirator selection, use, and limitations will be determined by BEF personnel as outlined in 42 CFR 84.

4.3. Elective use of respirators is strictly prohibited and will not be worn by Air Force employees in the workplace. Respirators will either be required according to applicable directives or recommended after evaluation by the BEF.

4.4. Only government purchased respirators will be used in Air Force workplaces. Privately owned respirators will not be worn by Air Force employees in the workplace.

4.5. During baseline and annual industrial hygiene surveys, BEF will note any work processes or existing air sampling results that may indicate the need for respiratory protection. Respirator selection shall be accomplished by BEF personnel using the respiratory selection flow chart found in AFOSH Standard 48-8, and AF Form 2773, Respirator Selection Worksheet. The completed AF Form 2773 will be tiled at Tab E in the appropriate BEF case tile.

5. Training: Supervisors who have the responsibility of overseeing work activities of persons who must wear respirators will receive initial training. Initial supervisory training will be repeated if the supervisor has a permanent change of station or becomes the supervisor of a different workplace. Initial training will be completed prior to working in an environment requiring the use of respiratory protection. Initial/annual training for users of air-purifying and airline respirators will be conducted during the industrial hygiene survey. Training of emergency respirators will be conducted during the industrial hygiene survey. Training of emergency response and rescue teams using SCBAs will be accomplished by the 6th Civil Engineer Squadron, Fire Protection Flight.

6. Fit Testing : BEF will contact the workplace supervisor to schedule fit testing at least 1 week prior to the actual fit testing. All fit testing, including quantitative fit testing, shall be performed by BEF. Quantitative respirator fit testing is the standard BEF method for fit testing and will be ensured when mandated by a substance specific standard (asbestos, lead, cadmium) to select specific types, makes, or models of respirators. Once fit testing is completed, the individual will be issued an AF Form 2772, **Certificate of Respirator Fit Test**.

7. Care, Inspection, and Maintenance of Respirators:

7.1. The respirator user shall inspect the respirator immediately before use to ensure it is in proper working condition. After cleaning and sanitizing, each respirator shall be inspected to determine if it needs repairs, replacement of parts, or should be discarded. Each respirator stored for emergency or rescue will be inspected at least monthly. AFOSH Standard 48-8 provides a suggested procedure for cleaning and sanitizing. Inspection will include inlet valve assemblies, tightness of connections, abnormal wear, or defects, and the proper installation of filters, canisters, or cartridges. The workplace supervisor or an individual appointed by the supervisor will inspect each air-line, SCBA, emergency escape, and air purifying respirator used in the workplace monthly and document this inspection on AF Form 1071, Inspection/Maintenance Record. This inspection will include, in addition to the above, the compressors used with the air-supplied systems, and proper functioning of regulators, alarms, and other warning systems.

7.2. Storage will be in a manner that will protect against chemical and physical agents such as vibration, shock, sunlight, heat, extreme cold, or excessive moisture. Respirators will not be stored or packed in lockers or toolboxes unless they are protected from contamination, distortion, and damage.

7.3. Agencies having compressed or liquid breathing air quality tested will send BEF a copy of the results no later than two weeks after received.

7.4. Spare parts for respirator repair will be installed according to the manufacturer's instruction so as not to invalidate NIOSH or MSHA certification. The manufacturer of the given respirator and spare parts will be the same. Using a different manufacturer's part invalidates NIOSH or MSHA certification.

7.5. Reducing or admission valves, regulators, and alarms will be adjusted or repaired only by the respirator manufacturer or a technician trained by the manufacturer. Calibration of the instrumentation for valve, regulator, and alarm components will be done at an interval not to exceed three years. Cartridges, filters, or canisters of air-purifying respirators will be changed whenever the worker detects an increase in breathing resistance, smells or tastes the contaminant, the end of service life indicator is triggered, the shelf life of the item has been reached, or as required by applicable substance specific OSHA standards.

8. Procedures for Program Evaluation:

8.1. The annual BEF respiratory protection program evaluation will be presented during the first quarter meeting of the Aerospace Medicine Council.

8.2. Workplace OIs will be reviewed annually by BEF personnel during the industrial hygiene survey in accordance with AFI 48-101.

JAMES H. SOLIGAN, Brig Gen, USAF
Commander

Attachment 1

SCREENING QUESTIONNAIRE

HEALTH RECORD		CHRONOLOGICAL RECORD OF MEDICAL CARE	
DATE	SYMPTOMS, DIAGNOSIS, TREATMENT, TREATING ORGANIZATION (Sign each entry)		
MEDICAL EVALUATION QUESTIONNAIRE			
JOB TITLE:			
DUTY HOURS:		DUTY NUMBER:	
HAS YOUR SUPERVISOR TOLD YOU HOW TO CONTACT THE HEALTH CARE PROFESSIONAL WHO WILL REVIEW THIS QUESTIONNAIRE (circle one) YES/NO			
WHAT TYPE OF RESPIRATOR WILL YOU BE USING: (circle one)			
a: N,R,P disposable respirator (filtermask, non cartridge type only)			
b: other type (for example, half or full face type, powered air purifying, supplied-air, SCBA)			
HAVE YOU WORN A RESPIRATOR BEFORE? (circle one) YES/NO If "yes" what types:			
DO YOU CURRENTLY SMOKE TOBACCO, OR HAVE YOU SMOKED TOBACCO IN THE LAST MONTH (circle one) YES/NO			
HAVE YOU EVER HAD ANY OF THE FOLLOWING CONDITIONS?			
A. Seizures (fits): YES/NO			
B. Diabetes (sugar disease): YES/NO			
C. Allergic reactions that interfere with your breathing: YES/NO			
D. Claustrophobia (fear of enclosed places): YES/NO			
E. Trouble smelling odors: YES/NO			
HAVE YOU EVER HAD ANY OF THE FOLLOWING PULMONARY OR LUNG PROBLEMS?			
A. Asbestosis: YES/NO		G. Silicosis: YES/NO	
B. Asthma: YES/NO		H. Pneumothorax (collapsed lung): YES/NO	
C. Chronic Bronchitis: YES/NO		I. Lung Cancer: YES /NO	
D. Emphysema: YES/NO		J. Broken ribs: YES/NO	
E. Pneumonia : YES/NO		K. Any chest injuries or surgeries: YES/NO	
F. Tuberculosis: YES/NO		L. Any other lung problem you have been told about:	
YES/NO			
DO YOU CURRENTLY HAVE ANY OF THE FOLLOWING SYMPTOMS OF PULMONARY OR LUNG ILLNESS?			
A. Shortness of breath: YES/NO			
B. Shortness of breath when walking fast on level ground or walking up a slight hill/incline: YES/NO			
C. Shortness of breath when walking with other people at an ordinary pace on level ground: YES/NO			
D. Have to stop for breath when walking at your own pace on level ground: YES/NO			
E. Shortness of breath when washing or dressing yourself: YES/NO			
F. Shortness of breath that interferes with your job: YES/NO			
G. Coughing that produces phlegm (thick sputum): YES/NO			
H. Coughing that wakes you early in the morning: YES/NO			
PATIENT'S IDENTIFICATION (Use this space for Mechanical Injuries)			
RECORDS MAINTAINED AT:			
PATIENT'S NAME (Last, First, Middle Initial)			SEX
RELATIONSHIP TO SPONSOR	STATUS	RANK/GRADE	
SPONSOR'S NAME		ORGANIZATION	
DEPT./SERVICE	CONCENTRATION NO.	DATE OF BIRTH	

CHRONOLOGICAL RECORD OF MEDICAL CARE

STANDARD FORM 888 (REV. 5-94)
Prescribed by GSA and ICMA
FORM 888 (REV. 2014-05-05)

SP-101
Rev 10/08 1992

DATE	SYMPTOMS, DIAGNOSIS, TREATMENT TREATING ORGANIZATION (Copy each entry)	
	I. Coughing that occurs mostly when you are lying down: YES/NO	
	J. Coughing up blood in the last month: YES/NO	
	K. Wheezing: YES/NO	
	L. Wheezing that interferes with your job: YES/NO	
	M. Chest pain when you breath deeply: YES/NO	
	N. Any other symptoms that you think may be related to lung problems: YES/NO	
	HAVE YOU EVER HAD ANY OF THE FOLLOWING CARDIOVASCULAR OR HEART SYMPTOMS?	
	A. Heart Attack: YES/NO	E. Swelling in your legs or feet (not caused by walking): YES/NO
	B. Stroke: YES/NO	F. Heart arrhythmia (heart beating irregularly): YES/NO
	C. Angina: YES/NO	G. High blood pressure: YES/NO
	D. Heart Failure: YES/NO	H. Any other heart problem that you've been told about: YES/NO
	HAVE YOU EVER HAD ANY OF THE FOLLOWING CARDIOVASCULAR OR HEART SYMPTOMS?	
	A. Frequent pain or tightness in your chest: YES/NO	
	B. Pain or tightness in your chest during physical activity: YES/NO	
	C. Pain or tightness in your chest that interferes with your job: YES/NO	
	D. In the past two years, have you noticed your heart skipping or missing a beat: YES/NO	
	E. Heartburn or indigestion that is not related to eating: YES/NO	
	F. Any other symptoms that you think may be related to heart or circulation problems: YES/NO	
	DO YOU CURRENTLY TAKE MEDICATION FOR ANY OF THE FOLLOWING PROBLEMS?	
	A. Breathing or lung problems: YES/NO	C. Blood Pressure: YES/NO
	B. Heart trouble: YES/NO	D. Seizures: Fits: YES/NO
	IF YOU'VE USED A RESPIRATOR, HAVE YOU EVER HAD ANY OF THE FOLLOWING PROBLEMS:	
	A. Eye Irritation: YES/NO	D. General weakness or fatigue: YES/NO
	B. Skin allergies or rashes: YES/NO	E. Any other problem that interferes with your use of
	C. Blood pressure: YES/NO	a respirator: YES/NO
	WOULD YOU LIKE TO TALK TO THE HEALTH CARE PROFESSIONAL WHO WILL REVIEW THIS QUESTIONNAIRE ABOUT YOUR ANSWERS TO THIS QUESTIONNAIRE: YES/NO	
	HAVE YOU EVER LOST VISION IN EITHER EYE (TEMPORARILY OR PERMANENTLY)? YES/NO	
	DO YOU CURRENTLY HAVE ANY OF THE FOLLOWING VISION PROBLEMS?	
	A. Wear contact lenses: YES/NO	C. Color blind: YES/NO
	B. Wear glasses: YES/NO	D. Any other eye or vision problems: YES/NO
	DO YOU CURRENTLY HAVE ANY OF THE FOLLOWING HEARING PROBLEMS?	
	A. Difficulty hearing: YES/NO	C. Any other hearing or ear problems: YES/NO
	B. Wear a hearing aid: YES/NO	
	HAVE YOU EVER HAD A BACK INJURY? YES/NO	
	DO YOU CURRENTLY HAVE ANY OF THE FOLLOWING MUSCULOSKELETAL PROBLEMS?	
	A. Weakness in any of your arms, hands, legs, or feet: YES/NO	
	B. Back pain: YES/NO	
	C. Difficulty fully moving your arms and legs: YES/NO	
	D. Pain or stiffness when you lean forward or backward at the waist: YES/NO	
	E. Difficulty fully moving your head up or down: YES/NO	
	F. Difficulty fully moving your head side to side: YES/NO	
	G. Difficulty bending at your knees: YES/NO	
	H. Difficulty squatting to the ground: YES/NO	
	I. Climbing a flight of stairs or a ladder carrying more than 25 pounds: YES/NO	
	J. Any other muscle or skeletal problem that interferes with using a respirator: YES/NO	
	SIGNATURE:	DATE:

Attachment 2**WORKPLACE SPECIFIC RESPIRATORY PROTECTION OPERATING INSTRUCTION**

Date _____

Squadron: _____ Shop: _____

NCOIC: _____ Duty Phone: _____

1. This Operating Instruction contains information and guidance for proper respirator selection, use, care, and maintenance. Reference directives include AFOSH Standard 48-1, Respiratory Protection Program, and applicable Technical Orders.

Author's Note: This example Operating Instruction is written for air purifying respirators which covers most respiratory protection at MacDill Air Force Base. Modifications necessary for the use of air supplied respirators. Self Contained Breathing Apparatus systems fall under Fire Department guidelines.

SPECIFIC**2. RESPIRATOR TYPE MANUFACTURER MODEL CARTRIDGES (S) OPERATION/USE****EXAMPLE:**

Full face air purifying	3M	7300 s	HEPA & OV	Chromate primer Spray Painting
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All respirators will have formal approval by the Base Medical Authority which is the Bioenvironmental Engineering Flight (BEF), 6th Aerospace Medicine Squadron (6 AMDSISGPB). Each individual required to use a respirator must be medically qualified by 6 AMDSISGPB, and then fit tested and trained by the BEF where personnel will be fit tested with a particular brand name respirator and corresponding cartridge(s).

3. Usage: Before each use of an approved respirator, the wearer shall perform the following procedures:

3.1. Inspection:

3.1.1. Check all parts of the respirator for wear and defects.

3.1.2. Check the National Institute for Occupational Safety and Health approval sticker (TC#) on the filters, canister, or cartridge.

3.1.3. Replace filters, canister, cartridge, valves, and head straps if necessary

3.2. Leakage Test:

3.2.1. Positive Pressure Test: Close the exhaust valve and exhale gently into the face piece. The respirator and fit are considered satisfactory if a slight positive pressure builds up inside the face piece without any evidence of outward leakage of air at the seals. For some respirators, this method will require removal of the exhaust valve cover.

3.2.2. Negative Pressure Test: Use hands to cover the inlet openings of the filter, canister, or cartridge. Be careful not to apply too much pressure as to make a false fit; you want to identify if the mask fits during normal use of the respirator. Inhale gently so that the face piece collapses slightly and hold breath for 10 seconds. If the face piece remains in a slightly collapsed condition and no inward leakage of air is detected, the respirator and fit are considered satisfactory.

4. FILTERS, CANISTERS, OR CARTRIDGE REPLACEMENT: Recognition of the end of the filters, canisters, or cartridge service life can be detected by any and/or all four methods:

4.1. Check the manufacturer's recommended shelf life.

4.2. When the wearer detects an extra resistance in breathing.

4.3. When the wearer detects an odor or can taste the chemical that is being used. Since a common cold can disrupt the sense of smell and taste, the individual should replace the filters, canisters, or cartridges more often when suffering from sinus or respiratory illness.

4.4. When the wearer identifies a change in color in the end of life indicator generally found on most canisters.

5. SAFETY PRECAUTIONS: Prior to starting any hazardous operation, be sure to employ the following safety measures:

5.1. Be sure the respirator functions properly as described above.

5.2. Do not perform any potentially hazardous duties unless you are medically qualified and properly trained with the appropriate equipment.

6. CLEANING AND MAINTENANCE: Proper cleaning, maintenance, and storage are outlined in Attachment 1.

7. RESPONSIBILITIES OF THE SHOP SUPERVISOR:

7.1. Ensure that the proper respirator is being utilized for a designated task.

7.2. Maintain a record of training (AF Form 483) of personnel by the BEF office and all records of annual in-house training provided by the shop supervisor.

7.3. Maintain an inspection record of respirators

7.4. Ensure respirator training and fit testing of newly assigned personnel are accomplished before the worker begins operations requiring the use of respiratory protection.

7.5. Notify BEF of any problems or mishaps occurring while respirators are in use.

7.6. Notify BEF for any training needed.

7.7. Contact BEF office, 828-3534, to set up initial respirator physical(s) with Occupational Medicine, and any training needed.

7.8. Ensure that the guidelines in this operating procedure are followed.

8. RESPONSIBILITIES OF THE INDIVIDUAL USER:

8.1. Maintain a sanitary condition by ensuring that his or her respirator is washed on a periodic basis, stored in a clean and safe environment, and inspected prior to each use.

8.2. Proper wear and use of respirators as specified by this Operating Instruction and BEF report

8.3. Notify the shop supervisor of damaged respirator.

SIGNATURE BLOCK

SHOP NCOIC

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BEF Representative

1 Atch

Cleaning & Maintenance Instructions

CLEANING AND MAINTENANCE

1. This section explains the proper cleaning, maintenance, and storage of respirators.

2. CLEANING AND DISINFECTION:

2.1. Individually issued respirators shall be cleaned and disinfected by the user on a frequent basis to eliminate buildup of skin oil and grime, and to maintain a sanitary condition.

2.2. Respirators maintained for emergency use should be cleaned and disinfected after each use.

2.3. Procedures for cleaning:

2.3.1. Remove filters, cartridges, or canisters.

2.3.2. Remove inhalation/exhalation valves.

2.3.3. Wash face piece in cleaner-disinfectant solutions.

2.3.4. Rinse in clean warm water.

2.3.5. Air dry in a clean area.

2.3.6. Clean other respirator parts as recommended by the manufacturer.

2.3.7. Replace defective parts if necessary.

2.3.8. Place in a plastic bag or other clean tightly sealed container for storage.

2.4. Cleaner disinfectant solution:

2.4.1. Commercial product:

2.4.1.1. Prepare using manufacturer's instructions.

2.4.1.2. Wash.

2.4.1.3. Rinse well.

2.4.1.4. Air dry.

2.4.2. Other disinfecting solutions:

2.4.2.1. Bleach solutions (2 tablespoons per gallon of water). Wash as follows:

2.4.2.1.1. Wash in detergent.

2.4.2.1.2. Dip in bleach solution for only 2 minutes.

2.4.2.1.3. Rinse in clean water.

2.4.2.1.4. Air dry.

2.4.2.2. Iodine solutions (1 teaspoon of tincture of iodine per gallon of water). Wash using the same procedures as with bleach solutions

2.4.2.3. Alcohol rinse for contamination of organic phosphate pesticide respirators only.

2.4.2.3.1. Light contamination-use normal cleaning procedures.

2.4.2.3.2. Heavy contamination:

2.4.2.3.2.1. Alkaline soap wash.

2.4.2.3.2.2. 50 percent Isopropyl or ethyl alcohol and water solution as a rinse.

Note: These disinfectant solutions can damage the respirator and its individual parts if the immersion time is extended past 2 minutes. Dermatitis can also be a result if not rinsed thoroughly.

3. REPAIRS AND REPLACEMENT OF PARTS:

3.1. Experienced personnel shall replace parts.

3.2. Only manufacturer parts designed for that use shall be used.

3.3. Filters, cartridges, valves, and head straps must be replaced when defective.

3.4. Replace respirator if face piece is defective.

3.5. For assistance in obtaining a national stock number and part numbers for the correct replacement parts, contact B E F.

4. STORAGE:

4.1. Do not store respirators and parts in or near the following:

4.1.1. Dusty areas

4.1.2. Direct sunlight

4.1.3. Temperature extremes

4.1.4. A high humidity area

4.1.5. Toxic chemicals

4.2. Store respirators in such an area and manner as to prevent the face piece from being deformed.

4.2.1. Seal in a plastic bag.

4.2.2. Position so that masks, hoses, and head straps are not creased or stretched out of shape.

4.2.3. Store in a designated area, preferably in a carrying case or special cabinet.

